

**MERU UNIVERSITY OF SCIENCE AND TECHNOLOGY**

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**University Examinations 2015/2016**

FIRST YEAR, FIRST SEMESTER EXAMINATION FOR BACHELOR OF SCIENCE FOOD SCIENCE AND TECHNOLOGY, BACHELOR OF SCIENCE HUMAN NUTRITION & DIETETICS, BACHELOR OF SCIENCE FOOD SCIENCE AND MANAGEMENT, BACHELOR OF SCIENCE IN ANIMAL HEALTH PRODUCTION AND BACHELOR OF SCIENCE IN CROP PROTECTION

**SZV 3100: PRINCIPLES OF BIOLOGY**

**DATE: NOVEMBER, 2015 TIME: HOURS**

**INSTRUCTIONS:** *Answer question* ***one COMPULSORY*** *and any other* ***two*** *questions.*

**QUESTION ONE – (30 MARKS)**

1. Explain what the cell theory is and state two exemptions to it. (4 Marks)
2. List the differences between plant and animal cells. (3 Marks)
3. Name the four classes of bones. (4 Marks)
4. Name the three types of joints. (3 Marks)
5. Explain the functions of the main artery and the vein in the circulatory system of a mammal (4 Marks)
6. List the three types of tissues found in plan. (3 Marks)
7. List any four functions of plant roots. (4 Marks)
8. What is binomial nomenclature? (2 Marks)
9. Explain the benefits of taxonomy. (3 Marks)

**QUESTION TWO (20 MARKS)**

Discuss using a clearly labeled diagram the integumentary system of a cow. (20 Marks

**QUESTION THREE (20 MARKS)**

Discuss using a clearly labeled diagram the parts of a generalized eukaryotic cell. (20 Marks)

**QUESTION FOUR (20 MARKS)**

Describe systematically how water moves from the soil to the leaves in a plant. (20 Marks)

**QUESTION FIVE (20 MARKS)**

Discuss using a clearly labeled diagram how nitrogen circulates in the atmosphere.(20 Marks)